US Embassy Jakarta
ECONOMIC SECTION

INDONESIA:
TROUBLES IN INDONESIA'S LNG INDUSTRY

Summary

- Declining production and the GOI's January 2005 decision to defer and cancel 51 liquefied natural gas (LNG) cargos this year are the most visible signs of trouble in Indonesia's LNG industry.
- LNG producers and buyers are concerned that poor policy and weak government management threaten Indonesia's competitiveness.
- Protracted negotiations between the GOI and a BP consortium to develop a third LNG center at Tangguh will delay new LNG production until 2008.
- Despite abundant natural gas reserves, Indonesia will very likely continue to lose world market share and LNG revenue.
- The industry wants the GOI to strengthen LNG governance and revise or clarify key regulations to improve the health of the sector.

Background

Indonesia began LNG production in 1977 and is the world's first and largest LNG producer. Output dropped by 3.5 percent in 2004 to about 25.5 million tons (MT), down from a peak of 28.9 million tons in 1999. The country has two LNG centers – PT Arun in Aceh province and PT Badak at Bontang in East Kalimantan province. ExxonMobil (EM) provides onshore and offshore natural gas for LNG at Arun, a six-train facility with a production capacity of 12.8 million tons per annum (mtpa). French Total, Anglo-Italian joint venture VICO Indonesia and U.S. Unocal provide natural gas from onshore and offshore fields for LNG production at the PT Badak plant in Bontang, an eight-train facility with a production capacity of 21.63 mtpa. A third (two-train, 7 mtpa) LNG production center at Tangguh in West Papua, operated by Anglo-American BP, with significant Chinese and Japanese shareholdings, should come on line in 2008.

LNG contributes substantially to the Indonesian economy. In the 1990's, oil and gas revenues, of which LNG represents about half, comprised nearly 27 percent of the country's domestic budget revenues. Today, that number remains over 23 percent. In 2004, high crude oil prices helped raise LNG exports to a record $7.7 billion, 11 percent of Indonesia's $69.7 billion in total exports. Indonesia's LNG buyers include Japan (71 percent share), South Korea (20 percent), and Taiwan (9 percent). Beginning in 2007, Indonesia is contracted to ship LNG to the Chinese National Offshore Oil Corporation's (CNOOC) planned Fujian terminal in China, U.S. Sempra Energy's proposed Baja California terminal, and South Korea's SK-POSCO. Indonesia continues to have the best hydrocarbon potential in Southeast Asia, with a reputed 178 trillion cubic feet (TCF) of proven and probable gas reserves.

Indonesian LNG Statistics

Year	Volume (MT)	Revenues (billion US)	% GDP	World Market Share
1998	26.912	3.389	3.4	32%
1999	28.955	4.489	3.2	32%
2000	26.991	6.802	4.4	26%
2001	23.882*	5.375	3.8	22%
2002	26.225	5.595	3.2	23%
2003	26.404	6.586	3.1	21%
2004	25.504	7.767	3.1	n/a

*Arun production shut down for four months for security reasons (see below).

Arun LNG Challenges

Aceh's gas production peaked in 1995 and is now on a steady decline. Three LNG trains are currently used, producing about 6 mtpa. Several factors affect LNG production at Arun:

- Declining reserves: 90 percent of Arun's gas resources are now depleted and committed reserves will run out entirely in 2018. The Block A gas field in North Aceh remains undeveloped pending an agreement between operator ConocoPhillips, partner ExxonMobil and the GOI on revenue sharing terms.

- Security: in 2001, PT Arun closed down natural gas production for four months when clashes between the military and Acehnese separatists threatened worker safety. The shutdown halved Arun's production that year and marked the first disruption of Indonesian LNG to its buyers.

- Fertilizer plants: the GOI requirement to provide low-cost natural gas to national fertilizer plants has reduced LNG production and caused state-owned Pertamina (which operates Arun) to defer 6 cargoes to Japanese and Korean buyers from 2004 to 2008. The GOI convinced buyers to defer an additional 9 cargoes for 2005.

Bontang LNG Challenges

Bontang currently produces about 20 mtpa of LNG. It began experiencing LNG shortfalls in 2004, causing the GOI to ask its Japanese buyers to cancel 41 LNG cargoes for 2005. Maintaining Bontang's production has its own set of challenges:

- Gas supply problems: the three gas providers (Total, VICO and Unocal) have experienced underproduction or inconsistent production due to maintenance, accident or low field performance.

- Lack of investment incentives: Bontang's LNG sales contracts have no penalties for non-performance; i.e., the producers bear no additional cost to the buyers for failing to meet contract obligations. Questions over who is responsible for maintenance and repair at the aging PT Badak facility, as well as potential future charges by its operator Pertamina, have slowed investment in the facility.

- Fertilizer plants: despite LNG shortfalls, the GOI diverts gas from Bontang's producers so that Pertamina can sell subsidized gas to a national fertilizer plant group and two small Japanese-owned plants.

Fertilizer Policy Costs Indonesia

The cost of the GOI policy to support the national fertilizer industry is high. Arun's six-cargo deferment last year cost Indonesia about $130 million in LNG revenues, of which Aceh province would have received approximately half. (Note: under Special Autonomy, Aceh receives 70 percent of the GOI's 70 percent gas share.) The 9 cargo deferral for 2005 will cost the country about $180 million. The GOI wants Arun to supply gas instead to two Aceh fertilizer plants at a subsidized price of $2.30/mmbtu, about one-third its LNG value. The combined effect of declining production and support to the fertilizer industry could lead Indonesia to defer, or spot purchase, as many as 14 Arun cargoes in 2006 and 28 Arun cargoes in 2007.

At Bontang, the costs of GOI support to the fertilizer industry are even higher. Although there is no gas supply agreement between Pertamina and the petroleum companies (Unocal, Total and VICO), it diverts 400-450 mmcfd of gas from LNG production for sale to the fertilizer industry. That gas volume is the equivalent of 40-45 LNG cargoes,

or the same number of Bontang cargoes that Indonesia will cancel to its Asian buyers this year. The value of the cancelled cargoes is estimated at $800-900 million, of which the GOI would have netted half. Instead, Pertamina will use the gas domestically to the fertilizer industry for under than $2.50/mmbtu, less than half the average Bontang LNG contract price.

There are several explanations for the GOI's support to the fertilizer industry. One reason is the importance the government places on ensuring sufficient fertilizer for the country's large agricultural sector. Another reason is jobs – each state-owned fertilizer plant employs over 1000 people. Skeptics wonder if these state-owned plants also provide rent-seeking opportunities.

LNG Management: Too Many Cooks

A primary factor hurting Indonesia's LNG future development is weak government management over the sector. Prior to 2002, Pertamina was the GOI's single coordinator for LNG management, production, sales and marketing. With the "unbundling" of the sector under the 2001 Oil and Gas Law and the creation of upstream authority BPMIGAS in 2002, there are now several entities involved in LNG governance – the Energy Ministry, the Finance Ministry, Pertamina, and BPMIGAS. This has raised a number of questions, including which parties have control over LNG assets, which parties are authorized to negotiate and sell future LNG contracts, and what happens to Pertamina's existing financial and contractual LNG obligations.

This ambiguous arrangement makes it difficult for the GOI to oversee decisions that affect the overall health of the LNG industry. In 2001, Japan's "Western Buyers" (the group of companies originally contracted to purchase LNG from Arun in Western Indonesia) negotiated a lower price with Pertamina for the Arun II contract extension. That prompted Japan's "Eastern Buyers" (companies buying LNG from Bontang in Eastern Indonesia) to invoke the "fair and equitable trade" clause in its Bontang contract. This forced Unocal, VICO and Total to tie their LNG contract price to a crude oil price ceiling of $24/barrel. To date, these actions have cost Indonesia and the Bontang suppliers $700 million between 2002-2004 and an estimated $200 million in 2005.

Similarly in 2002, Arun and Bontang producers complained that the low LNG price negotiated by BPMIGAS, BP and China for the Fujian LNG sales contract undercut the long-term viability of Indonesia's higher-priced, existing LNG contracts. "It was like the 3 million ton tail wagging the 27 million ton dog," complained one executive, referring to the volume difference between the Fujian and existing LNG contracts. The current amalgam of LNG sellers is unlikely to improve soon – Pertamina is reportedly not eager to play a subordinate role to BPMIGAS and has carved out authority to remain the

government's negotiator and seller of record for Japan's LNG contracts.

The Tangguh project is a good example of how these problems concern buyers and delay Indonesia's future LNG development. Despite the fact that Tangguh straddles a large 14 TCF gas resource during a period of growing demand, it took over two years to find enough LNG buyers to make the project viable. It took the GOI over three years to issue implementing regulations that would permit BP to seek Tangguh contract area extensions covering the lifespan of its LNG commitments. For delays ensured when the BP consortium, which is also the GOI's seller of record for Tangguh LNG, asked the GOI sign a shared liability agreement to protect the project against future GOI decisions harmful to the LNG industry.

After Tangguh, What?

As industry press casts a rosy glow over LNG production growth for competitors such as Qatar, Russia, Malaysia and Australia, Indonesia has few significant LNG development projects on the horizon. Unocal's Gendalo deepwater gas project in offshore Kalimantan could come online in 2010, but this would only maintain Bontang's LNG production. Pertamina occupies potentially large gas tracts suitable for LNG development, such as Donggi in South Sulawesi, but lacks the money to explore and develop them alone. Foreign companies are interested in joint ventures, but need clarity on LNG management and regulations imposing new taxes and domestic market obligations for natural gas. As a result, outside of Tangguh's 6.3 mtpa commitments, Indonesia's contracted LNG volumes will not grow this decade:

LNG Contracts (in million of metric tons)

Importer	2004	2005	2006	2007	2008	2009	2010
Japan	18.18	15.63	15.63	15.63	15.63	15.63	15.63
S.Korea	5.3	6.35	4.05	4.05	4.05	4.05	4.05
Taiwan	3.42	3.42	3.42	3.42	3.42	3.42	1.84
China	0	0	0	2.6	2.6	2.6	2.6
U.S.	0	0	0	3.7	3.7	3.7	3.7
TOTAL	**26.9**	**25.4**	**23.1**	**29.4**	**29.4**	**29.4**	**27.82**

Remedial Action Needed

Industry associations have outlined to the GOI a number of steps that would improve the health of the LNG sector:

- Strengthen LNG Governance. Establish clear lines of authority regarding LNG assets and management. Negotiate future sales contracts with one voice and with regard to the effect on existing contracts.

- Remove Constraints on LNG Growth. Revise or clarify laws and regulations that hurt the economics of LNG development and inhibit new investment, such as domestic market obligations and proposed taxes during exploration.

- Rationalize Policymaking. Find a balance between supporting the domestic fertilizer industry and meeting export commitments that is based on economic value and which restores Indonesia's reputation as a reliable LNG supplier.